Dyersburg State Community College
Progress Report on Standard IB
Portfolio Assessment

Dyersburg State Community College chose to work with portfolio assessment as an alternate means of assessing general education. The reasons for choosing portfolio assessment for Standard IB were:

1. Portfolio assessment is concerned with what students actually produce.
2. Portfolio assessment is an opportunity to assess the general education outcomes established by Dyersburg State. While commercial instruments are valuable, they inevitably reflect a set of goals that are not entirely congruent with those of the institution.
3. Unlike paper and pencil assessments that are administered by a testing or institutional research office, portfolio assessment engages the faculty directly.
4. Portfolio assessment may overcome the cultural bias that seems to plague many standardized general education assessments.
5. Portfolio assessment makes it possible to identify concrete areas in which improvements in the teaching and learning process can be made. A few numbers from commercial test results often provide no direction for improvement.

2002-03 is the third year of work on the portfolio process. During the first year, 2000-01, the major task was to define the rubrics for assessment and make the first attempt to score samples of student work. The second year was one of improvement and revision of the rubrics. In 2002-03, DSCC has fairly stable rubrics for Writing, Ethics and Culture, Science and Scientific Method, and Critical Thinking. A Reading portfolio assessment method has also been developed. After three years of work on method, faculty who served as part of the scoring teams can now begin the process of reporting to other faculty what they have learned about student strengths and weaknesses.

Future work in portfolio assessment will include the addition of a mathematics assessment and taking steps toward including the outcomes of the TBR general education core in the process.

General education is one of three areas Dyersburg State is studying under Standard IVB. The following is an excerpt from the report submitted under this standard.

Benchmark : **Increase the percentage of faculty involved in the portfolio process from 17 percent to 30 percent by the end of 2004-05.**

The goal for faculty participation in general education for 2002-03 was 20 percent. Of the 34 members of the Arts and Sciences Division, seven, or 20.6 percent participated in the portfolio scoring. The faculty team was composed of Dr. Larry Griffin (Writing), Dr. Brian Wells (Science), Dr. Billy Williams (Science), Dr. Erskine Ausbrooks (Ethics and Culture), Ms. Meleia Spiess (Writing), Dr. Mary Jane Farley (Reading), and Mrs. Sara Wolfe (Ethics and Culture). Mr. Robert Lhota (Critical Thinking), Dean of the Learning Resource Center, also participated in the scoring.

Activity 1: **Disseminate prior year results to all faculty and academic deans in the Fall.**

2001-02 results were presented to faculty at the October 10, 2002, meeting by Dr. Peter Brown and Dr. Buck Tarpley. A period of discussion regarding improvement actions followed. 2001-02 results were reported in the 2001-02 Standard IVB report and will be presented under Activity 2 below.

Activity 2: **Continue to aggregate data on each assessment area. Add analysis of courses taken in related fields where applicable.**

Artifacts for assessment of Ethics and Culture, Critical Thinking, Science, and Writing were collected in Spring 2003 and scored by a faculty team. The results follow:

The Ethics and Culture results for the past two years are summarized in the table below.

Table 4
Results of the Ethics and Culture Portfolio Assessment 2002 and 2003

Portfolio Statistic	2002	2003
Number of Artifacts	50	54
Possible Score Range	2-11	0-11
Observed Range	2-9	0-10
Mean	5.96	5.91
Standard Deviation	1.76	3.17
Correlation with Credit Hours Earned	-.176	.237
Correlation with Age	.301*	.044
Correlation with Race (1=Black, 2=White)	.-196	.118
Correlation with Gender (1=Female, 2=Male)	.041	-.148
Correlation with GPA	.286*	.369**
Correlation with ACT	.063	.208
Correlation with Initial Course Placement	-.142	-.191

**Significant at the .01 level *Significant at the .05 level

Table 4 shows that the 2003 Ethics and Culture assessment scores were similar to those observed in 2002. Although the range of possible scores was adjusted somewhat in 2003, the mean score remained very close to the mean score observed in 2002. In both years, the ethics and culture score was significantly correlated with grade point average, the association being more powerful in 2003. Surprisingly, the ethics and culture score was not correlated with age in 2003. Generally, ethical growth is in part a function of maturity. However, the average age of the 2002 sample was 25.7 in 2002 compared to 25.4 in 2003. It will be interesting to see how the age variable related to the overall Ethics and Culture score in future assessments.

Table 5
Results of the Critical Thinking Portfolio Assessment 2002 and 2003

Portfolio Statistic	2002	2003
Number of Artifacts	49	47
Possible Score Range	1-5	1-5
Observed Range	2-4	2-5
Mean	3.08	3.64
Standard Deviation	.640	.764
Correlation with Credit Hours Earned	.231	-.233
Correlation with Age	.172	-.033
Correlation with Race (1=Black, 2=White)	.062	.358*
Correlation with Gender (1=Female, 2=Male)	-.221	.121
Correlation with GPA	.368**	.303*
Correlation with ACT	.234	.194
Correlation with Initial Course Placement	.096	.172

**Significant at the .01 level *Significant at the .05 level

Table 5 compares the critical thinking portfolio assessment statistics observed in 2002 and 2003. Critical thinking scores are better in 2003 than in 2002. Faculty made this observation after scoring was completed this year and the data confirms it. The critical thinking score correlated with grade point average and race. The latter finding is something of a disappointment because there was no relationship between race and the portfolio critical thinking score in 2002. It was hoped that the portfolio assessment might be a more bias-free way of looking at critical thinking skills of students.

The authors of nine of the artifacts in the sample also had a California Test of Critical Thinking score. The correlation observed between CCTST scores and portfolio assessment score was -.259, which was not significant. However, there are too few cases from which to generalize.

Table 6 summarizes statistics regarding the science portfolio assessment conducted in 2002 and 2003. Age was significantly correlated in the science score in 2003 but not in 2002. The difference may lie in the samples. The average age in the 2002 sample was 26 compared to an average age of 23 in the 2003 sample. In both samples, the science score correlates significantly with the grade point average and ACT score. For the first time, information about grades in

science was added to the assessment analysis. A statistically significant correlation was observed between student's science grades and their performance on the science portfolio assessment.

Table 6
Results of the Science Portfolio Assessment 2002 and 2003

Portfolio Statistic	2002	2003
Number of Artifacts	48	52
Possible Score Range	1-5	1-5
Observed Range	1.5-4.9	2.9-4.9
Mean	3.60	4.06
Standard Deviation	1.04	.467
Correlation with Credit Hours Earned	.067	.209
Correlation with Age	.120	.313*
Correlation with Race (1=Black, 2=White)	.228	-.030
Correlation with Gender (1=Female, 2=Male)	-.139	.054
Correlation with GPA	.487**	.601**
Correlation with ACT	.438*	.367*
Correlation with Initial Course Placement	.288	.212
Correlation with Science Grades	N/A	.607**

**Significant at the .01 level *Significant at the .05 level

Table 7
Results of the Writing Portfolio Assessment 2002 and 2003

Portfolio Statistic	2002	2003
Number of Artifacts	53	45
Possible Score Range	1-5	1-5
Observed Range	1-4	2-4
Mean	2.87	2.71
Standard Deviation	.708	.695
Correlation with Credit Hours Earned	.036	-.026
Correlation with Age	-.006	.064
Correlation with Race (1=Black, 2=White)	.235	.224
Correlation with Gender (1=Female, 2=Male)	-.103	-.066
Correlation with GPA	.503**	.259
Correlation with ACT	.242	.238
Correlation with Initial Course Placement	-.130	.000
Correlation with Writing Grades	N/A	.194

**Significant at the .01 level *Significant at the .05 level

The data displayed in Table 7 show similar results for the two years. Two differences are noteworthy. First, unlike 2002, there was no significant correlation observed between overall

grades and scores observed on the writing portfolio assessment. Second, information about the grades students made in writing courses was collected. Interestingly, no significant correlation was observed between the writing portfolio scores and grades in writing classes.

Activity 3: Review portfolio assessment in light of the new TBR general education core curriculum.

Faculty reviewed the TBR general education core curriculum and the DSCC general education statement to assess the differences, determine the feasibility and desirability of changes, and to recommend changes that need to be made to the portfolio process in light of the new statewide core curriculum.

DSCC outcomes cover six areas: speaking, reading, and writing effectively; thinking critically; applying mathematical concepts; applying the scientific process; utilizing technology; and appreciating the diversity among cultures, value systems, and social institutions. Portfolio assessment spans reading, writing, critical thinking, scientific process, and ethics and culture. A mathematics assessment will be developed in 2003-04. Portfolio assessments of speaking effectively or using technology were not planned.

The TBR general education outcomes statement covers the areas of communication, humanities/fine arts, history, social/behavioral sciences, natural sciences, and mathematics. DSCC does not assess history, humanities/fine arts, or spoken communication beyond the classroom level.

2003-04 General Education Recommendations Regarding Portfolio Assessment: Faculty and staff who work with the scoring of the portfolio assessment materials reviewed the TBR outcomes statements in light of the DSCC general education statement and the scoring rubrics they utilize. They offered the following conclusions and recommendations:

1. Gathering of artifacts for portfolio development and scoring should be conducted earlier in the year, if possible.

2. A greater number of general education faculty should be involved in the portfolio process: scoring of artifacts, revision of rubrics, and collection of artifacts.

3. Faculty should present their findings at a faculty workshop or at one of the campus-wide conference sessions.

4. Portfolio measures should be revised in light of the TBR general education outcome statements. Possible new assessments in history, humanities/fine arts, spoken communication, and revision of elements of the DSCC portfolio assessment system that most parallel the TBR outcomes should be considered as projects for next year. Portfolio assessment design and implementation should be completed for one of these areas.